The Year in Review 2004–2005

OCTOBER 2004

10.05 Hugh David Politzer wins the Nobel Prize in Physics.

10.09 Lita Albuquerque and Michael McMillen unveil their art installations on the Caltech campus. These projects are part of Caltech's contribution to Pasadena's "The Tender Land" festival of art, history, music, and science.

10.11 Remodeling of Chandler dining hall begins.

10.29 Caltech launches the Information Science and Technology initiative, the first integrated research and teaching activity in the country to study information from its fundamental theoretical underpinnings to the science and engineering of novel information substrates, biological circuits, and complex social systems.

Science News

10.01 Biologists identify possible new target in cells for future therapeutic drugs.

10.06 Biologists demonstrate that the brain's temporoammonic pathway is important in spatial or location memory.

10.07 Cosmic Background Imager reveals motion in the remotest seeds of galaxy clusters in the very early universe.


10.20 Biologists establish Engineering Immunity Project to create a novel immunological approach to treating HIV, cancers.

NOVEMBER 2004

11.10 Caltech establishes the Nanoscale Systems Initiative (NSI) with a grant from the Gordon and Betty Moore Foundation.

Science News

11.04 Astronomers create artificial star with laser beam, expanding the fraction of sky available for viewing via adaptive optics.

11.04 Cell receptor protein "subunit" alpha4 alone can trigger response to nicotine, biologists find.

11.10 Einstein Papers Project issues The Berlin Years: Correspondence, January 1919–April 1920, volume 9 of The Collected Papers of Albert Einstein.

11.24 Internet speed quadrupled by international team during 2004 bandwidth challenge.

DECEMBER 2004

12.16 Dean W. Currie is named vice president for business and finance. Formerly vice president for finance and administration at Rice University, Currie officially begins his new job in February 2005.

Science News

12.06 Computer scientists embed computation in a DNA crystal to create microscopic patterns.

12.09 Physicists report Bose-Einstein condensation of cold excitons.

12.21 Scientists find methane clouds at Titan's temperate mid-latitudes.

JANUARY 2005
Students get down and dirty at the second annual Mudeo competition, a Caltech tradition that originated in the 1920s but lay dormant until its revival last year. The melee in the muck includes such activities as mud wrestling and the arcane "tire spree."

A special program is held in Beckman Auditorium to announce to the campus community that the "There's only one. Caltech" campaign has reached the $1 billion mark.

Kent Kresa is named the new chairman of Caltech's Board of Trustees, succeeding Ben Rosen. Kresa, formerly chairman of the board, chief executive officer, and president of Northrop Grumman Corporation, has been a Caltech trustee since 1994.

Science News

Neuroscientists discover that humans evaluate emotions by looking at the eyes.

FEBRUARY 2005

Marc I. Stern, president and director of the asset management firm the TCW Group, Inc., is named a Caltech trustee.

Science News

Applied physicists invent a light-emitting transistor that could bypass the bottleneck that slows down electronic circuits.

Physicist announces revolutionary grassroots astrophysics project "Einstein@Home," which will let anyone with a personal computer contribute to cutting-edge astrophysics research.

MARCH 2005

The Combined Heat and Power Partnership, a division of the Environmental Protection Agency, bestows the 2004 Energy Star CHP Award on Caltech. The award recognizes the Institute for replacing its aging six-megawatt CHP system in 2003 with a highly efficient, natural-gas-burning 12.5-megawatt system that both reduces polluting emissions by 15 percent and can generate up to 90 percent of the energy consumed on campus.

Mystery writer Walter Mosley is the featured speaker at the annual Michelin Distinguished Visitors Lecture.

France Câ³rdova, UC Riverside chancellor and a Caltech alumna, speaks on campus as part of the Presidential Lecture Series on Achieving Diversity in Science, Math, and Engineering.

The first of four Einstein Centennial Lectures, "Albert Einstein in 1905—Finding New Paths to the Depths of Physics," is presented in Beckman Auditorium by Yale emeritus professor Martin J. Klein. Subsequent lectures will be given on May 11 (University of Pittsburgh professor John D. Norton on Einstein's demonstration that molecules cause Brownian motion); September 27 (Max Planck Institute for the History of Science executive director JÃ¼rgen Renn on special relativity); and November 17 (Caltech physics professor Kip Thorne on general relativity).

The third-annual Sally Ride Science Festival—a day of science, socializing, and fun for girls in grades 5 through 8—is held on campus.

For the second consecutive year, Caltech is awarded more patents (135) than any other single university, according to the U.S. Patent and Trademark Office. Only the entire nine-campus University of California system is awarded more. Roughly two-thirds of the inventions are licensed, making them likely to become products that will one day benefit the public.

Neuroscientists demonstrate how recollections of emotional events are related to specific parts of the brain.

Biologists announce development of a new methodology, "instructive immunotherapy," that someday may fight human cancer.

Neuroscientists confirm that the ventrolateral prefrontal cortex of the brain is involved in the planning stages of movement.
Physicists invent device for weighing individual molecules.

Cognitive scientists use fMRI to catch test subjects in the act of trusting each other.

APRIL 2005

Kurt Gottfried, Cornell University professor of physics, noted science advisor, and cofounder of the Union of Concerned Scientists, speaks on campus as part of the Social Activism Speaker series.

Charles M. Vest, president emeritus of MIT, speaks in Beckman Institute Auditorium as part of the Presidential Lecture Series on Achieving Diversity in Science, Math, and Engineering.

Science News

Seismic researchers find that the direction and damage of earthquake ruptures are less predictable than previously thought.

MAY 2005

Caltech selects the design architects for the new Walter and Leonore Annenberg Center for Information Science and Technology: the Office for Metropolitan Architecture (OMA)-headed by Pritzker Prize-winning architect Rem Koolhaas-and Gruen Associates. Joshua Ramus, OMA partner and head of its New York office, will lead the design team; Gruen Associates will provide executive architecture services.

Three new trustees are elected to the Caltech board: John E. Bryson, chairman, president, and chief executive officer of Edison International; A. Michael Lipper, founder and chief executive officer of Lipper Advisory Services Inc.; and Donald W. Tang, vice chairman of Bear, Stearns & Co. Inc.

The third annual Science Writing Symposium is held on campus. The panel features Caltech's Troendle Professor of Cognitive and Behavioral Biology, Christof Koch, and two noted science writers, Margaret Wertheim and Leonard Mlodinow.


Occidental College professor of political science Peter Dreier presents the final address of the 2004–05 Social Activism Speaker series.

A new U.S. postage stamp commemorating Caltech professor and Nobel Laureate Richard Feynman is unveiled at a ceremony in Ramo Auditorium.

Science News

Neuroscientists unlock secrets of how the brain is wired for sex.

Seismologists' research on Sumatran earthquakes reveals new mysteries about workings of the earth.

Economists' study suggests that a California Energy Commission proposal would drive electricity prices higher.

Andromeda galaxy is three times bigger in diameter than previously thought, astronomers find.

JUNE 2005

Alumna Sandra Tsing Loh (BS '83, physics) is the speaker at Caltech's 111th commencement. 521 degrees are awarded: 217 BS; 120 MS; 2 Engineer; and 182 PhD.

Noted author and historian David McCullough speaks on campus as part of Caltech Public Events' Voices of Vision series.

Science News

Engineers create small propane-burning fuel cell that could power future electrical devices.

Individual brain cells can recognize people, landmarks, objects, and strings of letters, neuroscientists find.
06.21 Engineers' research on biological jet flows could lead to new diagnostic tools for heart disease.

06.28 Applied physicists devise plasma experiment that shows how astrophysical jets are formed.

06.30 Preferring a taste and recognizing it may involve separate brain areas, neuroscientists show.

JULY 2005

07.13 Planetary scientist discovers the first extrasolar planet under three suns.

07.21 Mars has been in deep freeze for four billion years, geochemists report.

07.27 Particle physicists using KamLAND detector in Japan demonstrate new way of measuring heat from radioactive materials within the earth.

07.29 Planetary scientists discover the tenth planet.

AUGUST 2005

08.10 David Rutledge, Kiyo and Eiko Tomiyasu Professor of Electrical Engineering, is named chair of the Division of Engineering and Applied Science.

08.17 Milton Chang, managing director of Incubic, a venture capital fund in Mountain View, California, and a Caltech alumnus, is elected to board of trustees.

Science News

08.01 Applied physicists create a tiny photon clock.

08.01 Bacteria probably caused the worst "Snowball Earth" episode, geologists' study shows.

09.12 Most distant explosion in the universe detected; smashes previous record.

09.21 Scientist uncover rules that govern the rate of protein evolution.

09.27 Survey of early universe uncovers mature galaxy eight times more massive than Milky Way.

09.30 Tenth planet has a moon, planetary astronomers discover.

OCTOBER 2005

10.03 David Baltimore announces that he will retire from the Caltech presidency.

10.05 Robert H. Grubbs wins the Nobel Prize in Chemistry.